

REMARKS

A minor amendment is made to the specification to correct a simple typographic error.

This application was filed with twenty claims. Claims 12-20 are withdrawn from consideration as not elected in response to the prior restriction requirement. Claims 5, and 12-20 are canceled, and new claims 21 and 22 are added in this paper. Claims 1-4, 6-11, 21, and 22 are thus now pending for examination.

Independent claim 1 was rejected under section 103 as allegedly obvious in view of *Fukutani* in combination with *Brusic*. *Fukutani* was cited as disclosing the basic structural elements of the claim, including a cylindrical copper sleeve, and *Brusic* was cited as teaching "coating copper members for corrosion protection." *Office Action*, ¶ 4.

Independent claim 1, as amended, requires "a cylindrical member ... composed of a copper metal" and "a film composed of cupric benzotriazole formed on a surface of the cylindrical member." The claim requires further that "*the cupric benzotriazole film is formed by reacting copper in the cylindrical member with benzotriazole.*"

Neither of the cited references discloses or suggests forming the benzotriazole film by reaction of benzotriazole with copper in the cylindrical member itself. *Brusic* describes a method in which a cupric benzotriazole film is formed by applying a solution including copper ions and benzotriazole.

Specifically, a dilute solution of Cu^{+2} ions and benzotriazole (1 H-BTA), and preferably including a borate buffer, is used to generate a protective film on metals such as cobalt or iron which are normally marginally protected by 1 H-BTA alone. By exposing the metal, such as cobalt, to a solution containing Cu^{+2} ions and 1 H-BTA, a spontaneous interaction of Cu^{+2} and the metal produces a film of Cu(I)BTA at the metal surface to form a permanent corrosion protection for the metal.

Brusic, col. 2, lines 57-66.

This film is materially different than that present in the invention of claim 1, *i.e.*, a film formed by reacting benzotriazole *with copper in the cylindrical member itself*. If *Brusic's* film becomes worn or damaged, no mechanism is present for repairing or replacing the worn or damaged portions. In the claimed mechanism, in contrast, the film is self-repairing and self-replacing. When the claimed film becomes worn or damaged, the copper *in the cylindrical member itself* serves as a source of copper ions for replacement of the film at the worn and damaged regions.

The film of the invention is thus materially different than the film disclosed by the references, and the combination that the Examiner suggests thus does not provide a bearing having all of the characteristics of claim 1, as amended herein. Independent claim 1 is thus patentable over the art cited against it, as are claims 2-4, and new claim 21, all of which depend from it.

Independent claim 6 is similar to claim 1 in requiring that "the cupric benzotriazole film is formed by reacting copper in the cylindrical member with benzotriazole." Independent claim 6 is believed patentable for substantially the same reasons as those described above, as are claims 7-11 and new claim 22, which depend from it.


In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6711 to discuss the steps necessary for placing the application in condition for allowance.

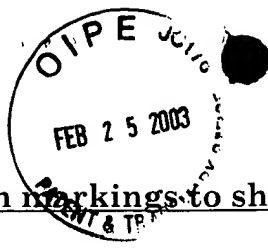
If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

Date: February 20, 2003

By: 
Michael L. Crapenhof
Registration No. 37,115
Attorney for Applicants

500 South Grand Avenue, Suite 1900
Los Angeles, California 90071
Phone: 213-337-6700
Fax: 213-337-6701



Version with markings to show changes made:

IN THE SPECIFICATION:

Please replace the paragraph at page 15, line 25 – page 16, line 3, with the following amended text:

A dynamic pressure bearing device according to the present invention offers a favorable dynamic pressure performance over a long period of time and reduces unnecessary dust by employing the anti-rust film on the sleeve of the dynamic pressure bearing device. [Ass] As a result, the dynamic pressure bearing device according to the present invention can improve at low cost the dynamic pressure performance of the dynamic pressure bearing device that causes a lubricating fluid injected in narrow bearing gap spaces to generate dynamic pressure.

IN THE CLAIMS:

1. (Amended) A bearing member comprising:
a cylindrical member for rotatably supporting a shaft member,
wherein the cylindrical member is composed of a copper metal; and
a film composed of cupric benzotriazole formed on a surface of the cylindrical member;
wherein the cupric benzotriazole film is formed by reacting copper in the cylindrical member with benzotriazole.

5. (Canceled)

6. (Amended) A dynamic pressure bearing device comprising:

a bearing member including a shaft member[,]; a cylindrical member that rotatably supports the shaft member, wherein the cylindrical member is made from a copper metal; and a film composed of cupric benzotriazole formed on a surface of the cylindrical body;

wherein the cylindrical member includes a dynamic pressure bearing sleeve that relatively rotatably supports the shaft member through dynamic pressure of a lubricating fluid; and

wherein the cupric benzotriazole film is formed by reacting copper in the cylindrical member with benzotriazole.